

# Nycteribiid Batflies from Panama

## (Diptera: Nycteribiidae)

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Two species of nycteribiids were hitherto known from Panama, *Basilia myotis* and *B. dunni*, both described by Curran (1935) from specimens taken from *Myotis nigricans*. In the present paper we add five more species of *Basilia*, of which two are new.

### Genus *Basilia* Miranda Ribeiro

*Basilia* M. Ribeiro, 1903, Arch. Mus. Nac. Rio de Janeiro, 12: 177.

*Pseudelytromyia* M. Ribeiro, 1907, ibidem, 14: 233.

*Guimaraesia* Schuurmans-Stekhoven Jr., 1951, Acta Zool. Lilloana, 12: 109.

Type-species: *Basilia ferruginea* M. Ribeiro, 1903.

Only two genera of nycteribiids are known from the New World, *Basilia* M. Ribeiro, 1903, and *Herschkovitzia* Guimarães and D'Andretta, 1956. They are easily distinguished by several characteristics. However, the separation between *Basilia* and some Old World genera is rather subtle and is based primarily on the presence of two-faceted eyes in *Basilia*. The following characters are common to all New World *Basilia*:

Anterior region of head (vertex) sclerotized; eyes two-faceted; palps with sub-parallel margins. Noto-pleural sutures parallel, with lateral plates. Sternal plate with one suture on each side of the lateral margins. Tarsal segment I much longer than the remaining segments taken together. Abdomen of female with two or three sclerotized plates (visible tergites) on the dorsal side.

### KEY TO PANAMANIAN SPECIES

#### FEMALES

1. Tibiae of all legs with four or five transverse rows of setae on the ventral margin.  
Tergal plate I transformed into two elongate lobes with short and long setae.....2
- Tibiae with three rows of setae. Tergal plate II transformed into two elongate lobes with short and long setae or with posterior margin arcuate.....3

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2. Tibiae with four transverse rows of setae on ventral margin. Tergal plate II with sparse setae next to the median longitudinal suture. Posterior elevation of mesonotum without a median digitiform process. . . . . *ferruginea* M. Ribeiro  
Tibiae with five rows of setae. Tergal plate II with numerous setae next to the median suture. A small digitiform process on middle of posterior elevation of mesonotum . . . . . *handleyi* n. sp.
3. Tergal plate II transformed into two elongate lobes. . . . . 4  
Tergal plate II with arcuate posterior margin. . . . . 5
4. Lobes of tergal plate II very thin. Lateral connexivum of abdomen (dorsal) with short pustulate setae and with a converging row of larger setae. . . . .  
 . . . . . *wenzeli* Guimarães and D'Andretta  
Lobes of tergal plate II not very thin. Lateral connexivum of abdomen with medium and long pustulate setae. . . . . *tiptoni* n. sp.
5. Tergal plate I short, with few discal setae. Each tergite of tergal plate I more than twice as long as broad. Third sternite obsolete. . . . .  
 . . . . . *anceps* Guimarães and D'Andretta  
Not so . . . . . 6
6. Long setae of posterior margin of the tergal plate I reaching or crossing the posterior border of the tergal plate II. Discal setae of tergal plate II on lateral halves of tergite . . . . . *myotis* Curran  
Long setae of posterior margin of the tergal plate I not reaching posterior margin of the tergal plate II. Discal setae of tergal plate II in irregular rows converging obliquely toward the mid-line. . . . . *dunni* Curran

### ***Basilisa ferruginea* M. Ribeiro**

*Basilisa ferruginea* M. Ribeiro, 1903, Arch. Mus. Nac., 12: 179, pl. I, figs. 1, 2. M. Ribeiro, 1907, ibidem, 14: 231, pl. XXIV, fig. 1. Ferris, 1924, Ent. News, 35: 195. Stiles and Nolan, 1931, Bull. Natl. Inst. Health, no. 155, p. 648. Schuurmans-Stekhoven Jr., 1931, Zeitschr. Parasitenk., 3: 216. Curran, 1935, Amer. Mus. Nov., no. 765, p. 2. Scott, 1936, Linn. Soc. Jour., Zool., 39: 497, 503, fig. 11. Del Ponte, 1944, Ann. Med. Reg., 1: 118, 124. Guimarães, 1946, Arq. Zool. Est. S. Paulo, 5: 14, 19, 20, figs. 12-20; Guimarães and D'Andretta, 1956, ibidem, 10: 28, figs. 5, 6, 74.

Previous records: Brazil, from *Lasiurus borealis bonariensis*; Paraguay, from unknown host; Cuba, from *Lasiurus pfeifferi*.

PANAMANIAN MATERIAL EXAMINED: One male and 2 females from *Lasiurus borealis frantzii*, (host no. 11699), Armila (San Blas), 17 March 1963, collected by C. O. Handley.

REMARKS: *Basilisa ferruginea* is characterized by the length of the pustulate setae of the lateral abdominal connexivum and by the presence of four transverse rows of setae on the ventral margin of all tibiae. The male has the same chaetotaxy on the tibiae and a large number (ca. 40) of spiniform setae on the posterior margin of the fourth abdominal sternite.

### ***Basilisa handleyi*, new species. Figure 35A.**

This species closely resembles *B. ferruginea*, but differs in having: much larger size; more abundant pilosity; a digitiform process on the posterior elevation of the mesonotum; 14 or 15 notopleural setae instead of eight or 10; five, instead of four, rows of setae on the tibiae; the discal setae of second tergal plate more numerous and concentrated along the mid-line; anal segment more conical and pilose; pustulate setae on lateral connexivum of abdomen more abundant, longer and thicker; 65 to 68 spines of the

ctenidium of the distal margin of the basal sternite; two, instead of six, setae on the genital plate.

**DESCRIPTION, FEMALE: Head.**—Vertex with three or four pairs of setae near the anterior margin, between the eyes; anterior margin of each gena with eight setae. Postgena with five or six scattered short setae. Palpi with two terminal setae (one very long) and three or four pairs near the lateral margin on the ventral side; one of the eyes typically with two ocelli, the other with only one ocellus. The paratype has two ocelli on the two eyes.

**Thorax.**—Much wider than long (1.42 x 0.96 mm.). Mesonotum raised posteriorly,

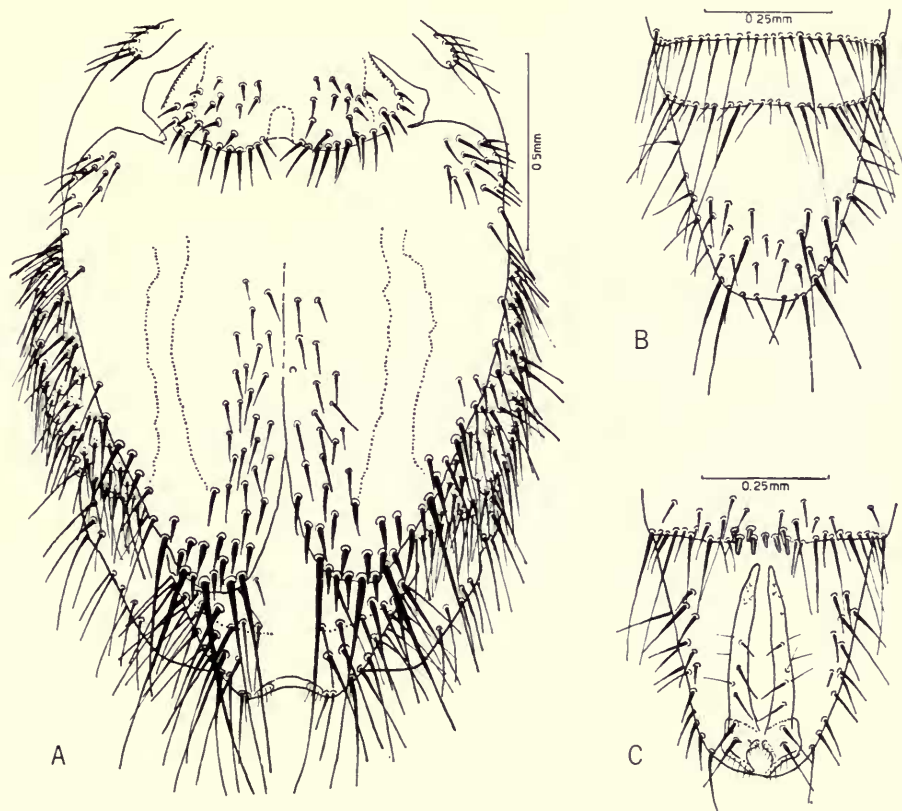


Fig. 35. *Basilia handleyi*, new species. A, dorsal view of abdomen, female. *Basilia anceps*, male. B, last two tergites, and C, terminal sternite.

with a conspicuous median digitiform process; 14 to 16 notopleural setae; thoracic ctenidium with 22 or 23 spines. Legs long, little laterally compressed. Tibiae scalpel-shaped, with five rows of setae ventro-distally. The proximal row, although less well-developed than the others, is rather conspicuous.

**Abdomen.**—Tergal plate I wider than long, with posterior margin slightly sinuate, paralleled by thick setae of medium length and showing, on each side of the mid-line, several blunt discal setae on the posterior half. Tergal plate II longitudinally divided; each half ending posteriorly as a lobe with three or four long, thick setae and some spine-like setae; lateral margins with medium and long setae; discal setae arranged in several irregular rows along the mid-line and clustering on the antero-lateral corners. Anal segment truncate, conical with numerous long, thick setae on each side of the

mid-line. Lateral connexivum with long and medium pustulate setae. Ctenidium of hind margin of basal sternite with 65 to 68 spines. Behind the basal sternite there are five others, the two anterior ones limited posteriorly by a row of setae longer than the discs. Fourth sternite represented by two plates more sclerotized than the connexivum, separated medially and showing two rows of setae, the posterior row denser and stronger. Fifth sternite also made of two plates separated in the middle and with setae as in fourth. Distal sternite trapezoid, more than 2.5 times as broad as long; discal setae in four or five irregular rows on posterior two-thirds; lateral and posterior margins paralleled by setae that are a little longer than the discal setae. Only two genital setae, connected to the anal sclerite by a strip slightly more sclerotized than the connexivum.

Length, 2.72 mm.

MALE: Unknown.

TYPE MATERIAL: Holotype female from *Lasiurus castaneus* Handley (host no. 11176), Armila (San Blas), collected 23 February 1963, by C. O. Handley. In the collection of Chicago Natural History Museum. Paratype female, same data as the holotype but collected 26 March 1963 (host no. 11911), deposited in the Departamento de Zoologia, Secretaria da Agricultura, São Paulo, Brazil.

REMARKS: This is the only New World species of *Basilia* that has tergal plate II transformed posteriorly into two lobes and the fifth sternite longitudinally divided. All other species with lobes on tergal plate II have a whole fifth sternite.

#### *Basilia wenzeli* Guimarães and D'Andretta

*Basilia wenzeli* Guimarães and D'Andretta, 1956, Arq. Zool. Est. S. Paulo, 10: 42, figs. 25-33, 57, 80.

Previous records: Venezuela, from *Eptesicus fuscus* and *Lonchorhina aurita*; Columbia, from *Histiopus* sp.

PANAMANIAN MATERIAL EXAMINED: From *Eptesicus brasiliensis propinquus*: Sibubé (Bocas del Toro), 1 male on 16 January 1963 (host no. 10659), 3 males and 4 females on 17 January 1963 (host no. 10706), and 1 male on 25 January 1963 (host no. 10935) all collected by C. O. Handley; Los Santos Province, 1 male and 1 female (host no. 10029), 26 February 1962, V. J. Tipton; Armila (San Blas), 1 female (host no. 11761), 20 March 1963, C. O. Handley. From *Artibeus j. jamaicensis*, Cerro Hoya (Los Santos), 1 female, 18 February 1962, V. J. Tipton.

REMARKS: The female of this species differs from all others by the great length of the terminal segment and by the forward position of the anal segment.

The posterior lobes of tergal plate II are rather thin, a character which indicates a close relationship of this species to *B. corynorhini* Ferris, 1916.

#### *Basilia tiptoni*, new species. Figure 36.

Very close to *B. silvae* (Brèthes, 1913), from which it differs in having: 12, instead of eight or ten, notopleural setae; a small digitiform process on the posterior elevation of the mesonotum; longer and more numerous pustulate setae on the lateral connexivum; lateral margins of anal segment subparallel (convergent in *silvae*). The main difference, however, is in the shape of tergal plate I, which has two median projections on the posterior



border, each projection bearing two setae. The male of *B. tiptoni* n. sp. has only 11 spiniform setae on the posterior margin of the fourth abdominal sternite; there are 20 in *silvae*.

DESCRIPTION, FEMALE: *Head*.—Anterior margin of vertex slightly concave, paralleled by two pairs of setae. Anterior margin of each gena with six or seven setae; postgena with five or six scattered setae on each side. Palpi with a long apical seta and eight uneven setae near the sides of the ventral aspect. Eyes typically two-faceted.

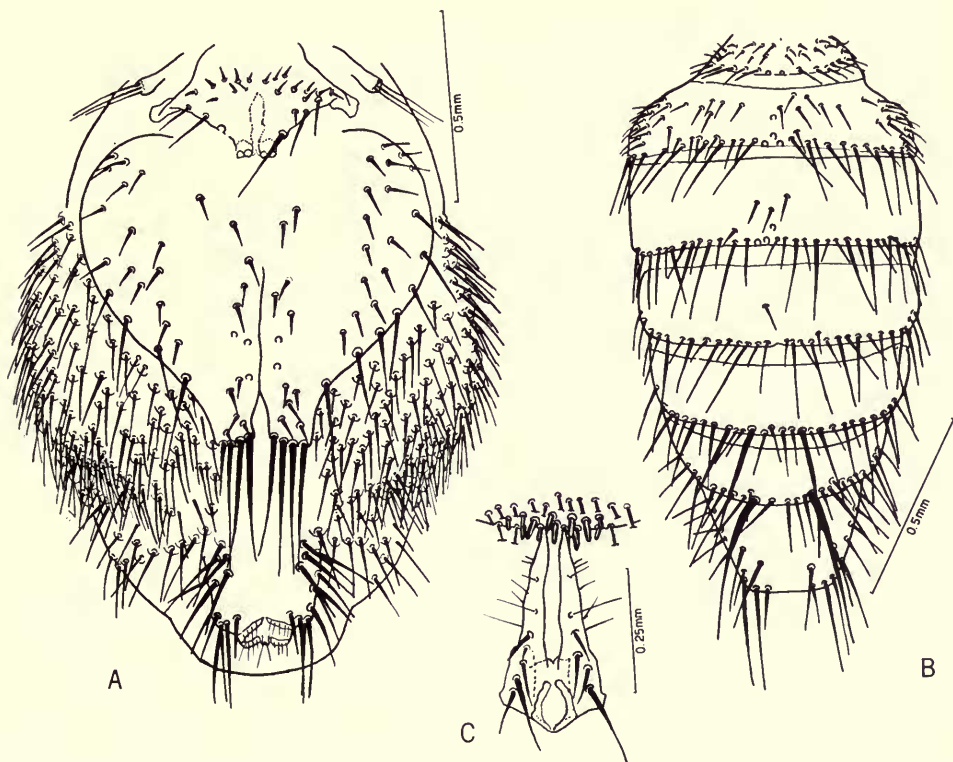


Fig. 36. *Basilia tiptoni*, new species. A, dorsal view of abdomen, female. B, abdomen, and C, claspers, male.

*Thorax*.—Wider than long (1.08 x 0.95 mm.). Mesonotum raised posteriorly, with a median digitiform process; 12 notopleural setae. Thoracic ctenidium with 18 or 19 spines. Legs long and little laterally compressed; tibiae scalpel-shaped with three rows of setae on the distal half of the ventral aspect.

*Abdomen*.—Posterior margin of tergal plate I with two slight lobes, each with two setae (deciduous in the type); three or four setae on each side of the posterior margin; some scattered spine-like setae on the disc. Tergal plate II longitudinally divided; each half ending posteriorly in a lobe with four long, thick setae; discal setae concentrated along the median suture and on the outer halves of the tergites. Anal segment with subparallel sides, bearing 11 or 12 thick setae on each side. Lateral connexivum with medium and long pustulate setae, some of which are as long as the discal setae of tergal plate II. Ctenidium of basal sternite with 44 or 45 spines. Posterior to the basal

sternite are five other sternites, well set off by the setae on their posterior margins. The second sternite is completely covered with setae; the third has, in addition to the setae of the hind margin, only a few lateral setae; the fourth sternite is divided into two plates medially and bears one row of setae; the fifth is entire and bears two irregular rows of setae. The terminal segment is wider than long, with rounded margins paralleled by 13 or 14 uneven setae; the discal setae are few (four or five), restricted to the posterior half. Genital plate with three setae.

Length, 2.59 mm.

MALE: Head, thorax and legs as in the female; however, in the single male specimen, the vertex bears three pairs of setae instead of two. Thorax slightly broader than long (1.03 x 0.93 mm.) and has no digitiform process on the mesonotum. It is possible to recognize seven abdominal tergites; the first is short, has two or three rows of small discal setae and a row of slightly larger setae on the hind margin; the second is longer, with 12 or 13 discal setae arranged in two irregular rows, plus, on each side, a group of setae as long as or shorter than the discals, and still, on the posterior margin, a row of interspersed medium and short setae; third dorsal segment with a posterior row of setae and four or five discals; fourth to sixth segments with setae only along the posterior margin; terminal tergite with one or two irregular rows of setae on the posterior margin. Ventrally, five sternites are recognizable; the ctenidium of the basal sternite has 44 or 45 spines; the second sternite has three irregular rows of discal setae and one row of larger ones on the posterior margin; the third sternite has setae only along the posterior margin, while the fourth sternite, besides these, has an irregular row of discals near the posterior margin plus a group of 11 spiniforms grouped on the mid-line.

Length, 2.39 mm.

TYPE MATERIAL: Holotype female from *Lonchorhina* or *Tonatia* (host no. 8288) 22 miles south of Changuinola (Bocas del Toro), collected 6 September 1961 by V. J. Tipton and C. M. Keenan. In the collection of Chicago Natural History Museum. Allotype male, same data and repository as holotype.

ADDITIONAL MATERIAL EXAMINED: The following seem also to belong to this species: 1 male, same data as the holotype but from a bat "like *Tonatia*" (host no. 8294); 1 male from *Mimon crenulatum keenani* (host no. 10724), Sibubé (Bocas del Toro), 18 January 1963, C. O. Handley, Jr.

### *Basilia myotis* Curran

*Basilia bellardii* Schuurmans-Stekhoven Jr., 1931 (nec Rondani, 1878), Zeitschr. Parasitenk., 3, (2), p. 207, figs. 1-6. Hase, 1931, ibidem, p. 220, figs. 1-17. Scott, 1936, Jour. Linn. Soc., Zool., 39: 497 (partim). Bequaert, 1942, Bol. Ent. Venez., 1, (4), p. 83. Guimarães, 1946, Arq. Zool. Est. S. Paulo, 5: 15, 62 (partim). Karaman, 1948, Rad. Acad. Yougosl., 273: 42, fig. 4.

*Basilia myotis* Curran, 1935, Amer. Mus. Novit., no. 765, p. 3, figs. 3-5. Scott, 1936, Linn. Soc. Jour., Zool., 39: 497. Bequaert, 1942, Bol. Ent. Venez., 1, (4), p. 84. Del Ponte, 1944, Ann. Inst. Med. Reg., 1, (1), pp. 118, 124. Guimarães, 1946, Arq. Zool. Est. S. Paulo, 5: 16, 19. Guimarães and D'Andretta, 1956, ibidem, 10: 76, figs. 85, 106-111, 124, 129, 145.

*Guimaraesia bellardii* Schuurmans-Stekhoven Jr., 1951, Acta Zool. Lilloana, 12: 112, fig. 4.

Previous records: Guatemala, from *Myotis nigricans* (probably subsp. *nigricans*), *Molossus* sp. (*bondae*?); Colombia, from *Myotis nigricans* (probably subsp. *nigricans*), *Uroderma bilobatum*; Peru, from unknown bat; Venezuela, from *Myotis* sp., *Myotis n. nigricans*, *Dasypterus* sp., *Molossus crassicaudatus*, unknown bat; British Guiana, from *Myotis n.*

*nigricans*; Panamá, type locality and host—Tapia, from *Myotis nigricans* (probably subsp. *nigricans*)—and Camogantí (Darién), from *Myotis n. nigricans*.

PANAMANIAN MATERIAL EXAMINED: From *Myotis n. nigricans*, in the Canal Zone, collected by V. J. Tipton; Gamboa, 2 females (host no. 6411), 23 September 1960; Fort Davis, 1 male and 2 females (host no. 3934) on 28 July 1959, 1 male and 3 females (host no. 4767) on 14 October 1959, 3 lots of 1 male, 1 female, and 2 females (host nos. 5171, 5173-4) on 7 January 1960; Barro Colorado Island, 14 males and 15 females (host no. 5595) on 12 June 1960.

REMARKS: The citations of *B. bellardii* as synonyms of this form are due to Schuurman-Stekhoven Jr., who described (1931) as *Basilia bellardii* what Curran described (1935) as *B. myotis*.

*Basilia myotis* replaces *B. speiseri* in northern South America, as the most common nycteribiid of *Myotis n. nigricans*. It ranges from British Guiana south to Peru and north to Guatemala. The two species are morphologically very similar. However, *B. myotis* has a longer tergal plate I, with discal setae only on anterior two-thirds of the tergite and longer and more numerous setae on the posterior margin, the latter setae extending well beyond crossing the hind margin of tergite II.

Guimarães and D'Andretta (1956, p. 76) have suggested that *B. myotis* may be a synonym of *B. ferrisi* Schuurman-Stekhoven Jr., 1931.

### ***Basilia dunni* Curran. Figure 37.**

*Basilia dunni* Curran, 1935, Amer. Mus. Nov., no. 765, p. 3, figs. 1-2. Scott, 1936, Linn. Soc. Jour., Zool., 39: 497. Del Ponte, 1944, Ann. Inst. Med. Reg., 1, (1), pp. 118, 124. Guimarães, 1946, Arq. Zool. Est. S. Paulo, 5: 16, 20. Guimarães and D'Andretta, 1956, ibidem, 10: 95, figs. 152, 153.

Previous Panamanian records: Santa Rosa (Colón), from *Myotis n. nigricans* (type locality and host).

MATERIAL EXAMINED: 1 male and 5 females from *Myotis n. nigricans* (host no. 5688) Juan Mina (Canal Zone), 28 July 1960, V. J. Tipton; 2 males and 2 females from *Myotis albescens* (host no. 6375), Río Tuira (Darién), 2 March 1958, V. J. Tipton, and 2 females (host no. 6378), same data but 5 March 1958.

REMARKS: This species was described from a single female; it was re-described and figured by Guimarães and D'Andretta (1956).

There are, in the region, two species whose females may be confused with that of *B. dunni*, namely, *myotis* Curran and *costaricensis* Guimarães and D'Andretta, 1956. *B. dunni* differs from *myotis* in having tergal plate I relatively shorter and with a larger number of discal setae, in the distribution of the discal setae of tergal plate II, in the shape of the anal segment, and in the chaetotaxy of the fourth sternite.

*Basilia costaricensis*, although somewhat similar to *dunni*, is easily characterized by the chaetotaxy of the fourth and fifth abdominal sternites and by the shape of the distal sternite. It also has a small digitiform process on the posterior elevation of the mesonotum; this process is absent in *dunni*.

However, the species most closely related to *dunni* is *carteri* Scott, 1936, from Paraguay, southern Brazil, northern Argentina, and southern Bolivia. The differences are not pronounced but are constant. They are primarily in the shape and chaetotaxy of tergal plate I, which in *dunni* is more slender posteriorly and has a less rounded posterior margin; the discal setae of this tergite are more numerous and extend close to the mid-line, not leaving the median longitudinal glabrous strip characteristic of *carteri*.

Until now only the female of *B. dunni* was known; we here describe the male.

DESCRIPTION, MALE: *Head*.—Vertex with three pairs of setae forming two diverging lines between the eyes (the allotype has five setae on one row); anterior border of each gena with seven or eight setae; same number of scattered setae on postgena. Palpi with 12 or 13 uneven setae on ventral aspect and one long setae on apex. Eyes typically two-faceted.

*Thorax*.—Broader than long (0.95 x 0.78 mm.) with anterior margin distinctly arcuate and posterior slightly sinuate. Thoracic ctenidium with 18 or 19 spines. Twelve setae on notopleural sutures. Legs long, little laterally compressed; all tibiae with three transverse rows of setae on ventral margin.

*Abdomen*.—Seven segments recognizable dorsally. The first tergite is short, with a row of medium setae on hind margin; on the sides a group of short setae, increasing in length posteriorly. Tergites II to VI with a dense row of setae on the hind margin and another row, parallel to the former but not reaching the sides, consisting of fewer and shorter setae. Besides the posterior row, the second tergite has several discal setae. The terminal tergite is wider than long, truncate conical, the posterior two-thirds with numerous setae in uneven rows, the lateral margins with numerous setae, three or four long setae on the hind margin. Basal sternite shorter than in the female, with 59 to 62 spines. Second sternite with a row of setae on the posterior margin, and three uneven rows of small discals. Third sternite with one row of setae on the posterior margin plus one or two irregular rows of small setae. Fourth sternite with two rows of discal setae, longer than those on the third plus one row of setae on the posterior margin and a group of 27 or 28 spiniforms, arranged into two rows; distal sternite with a dense group of thick setae arranged into several irregular lateral rows.

Length, 2.26 mm.

***Basilia anceps* Guimarães and D'Andretta. Figure 35B, C.**

*Basilia anceps* Guimarães & D'Andretta, 1956, Arq. Zool. Est. São Paulo, 10: 113-116, figs. 188-191.

Previous records: Colombia, from *Myotis n. nigricans*; Peru, from *Myotis n. nigricans*.

PANAMANIAN MATERIAL EXAMINED: From *Myotis nigricans*, Los Santos Province, collected by V. J. Tipton: 2 males and 1 female on 21 February 1962 (host no. 9962), and 1 male and 1 female on 24 February, 1962 (host no. 10003). From *Myotis simus*, Armila (San Blas), 2 females, 30 March 1963, collected by C. O. Handley and F. M. Greenwell (host no. 12049).

REMARKS: This species and *juquiensis* Guimarães, 1946, form a sharply differentiated group, being very similar to each other and differing from the rest of the genus in having only five sternites. They can be easily distinguished by the length of the pustulate setae of the lateral connexivum. In *juquiensis* these are long and of even length; in *anceps* they are predominantly long in front of spiracle IV, being very short from there backwards, except for three or four on the posterior region.



Tergal plate II also differs in the two species. In *juquiensis* it has almost straight lateral and posterior margins, which are rounded and continuous in *anceps*. The two San Blas females (from *Myotis simus*) have no setae on the anterior region of the tergite.

To date, only the female has been known; we here describe the male.

**DESCRIPTION, MALE: Head.**—Vertex with three pairs of setae, one between the eyes and two near the front margin; margin of each gena with seven or eight setae; postgena with six or seven scattered setae on each side; palpi with eight uneven setae ventrally and one apical seta. Eyes two-faceted (one specimen with single facets on both eyes).

**Thorax.**—Little broader than long (0.70 x 0.62 mm.). Thoracic ctenidium with 17 or 18 spines, notopleural sutures with six or seven setae. Legs relatively short and somewhat laterally compressed; tibiae slightly dilated distally and with three transverse rows of setae ventrally.

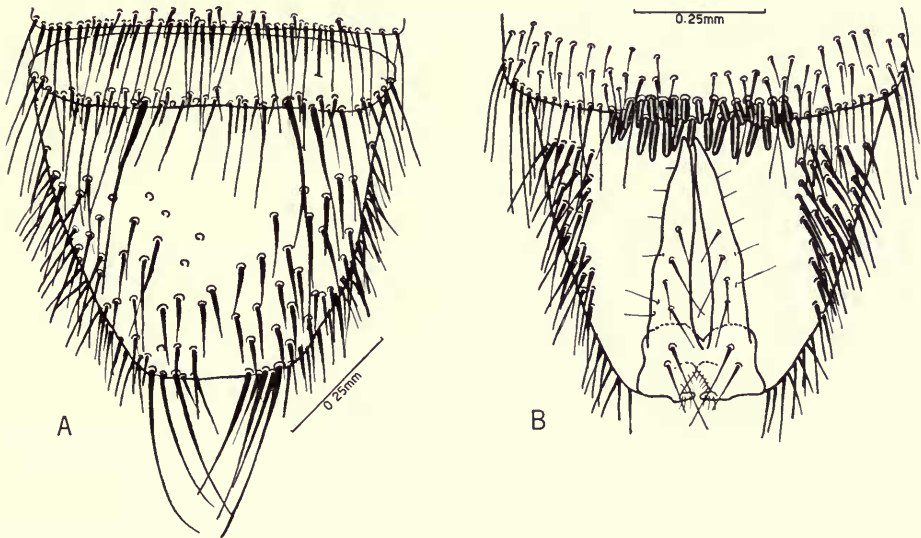


Fig. 37. *Basilia dunni*, male. A, terminal sternite. B, last two tergites.

**Abdomen.**—Basal tergite wider than long, with a few short setae on the posterior margin, plus some discal setae. Tergites II to VI with setae only on the hind margin. Distal tergite with 19 or 20 discal setae on the hind margin, some setae on the sides and four or five uneven setae on each side of the posterior margin. Basal sternite with 50 to 52 spines on the ctenidium of the posterior margin; sternites II to IV with some discal setae besides the row of setae on the posterior border; in addition, the fourth sternite has eight spiniforms on the median region of the hind border. Distal sternite with few setae on the sides.

Length, 180 mm.

#### Distribution and Host-Parasite Relationships

The present collection is comprised of 84 specimens from 27 lots. This raises the total of reported Panamanian specimens (Curran, 1935; Guimarães and D'Andretta, 1956) to 112 specimens, belonging to seven species of nycteribiids from 34 lots.

Panamanian nycteribiids seem to belong to the South American assemblage of *Basilia* species. Four of the seven have been found in South America more than once: *myotis*, 23 records; *anceps*, two; *wenzeli*, four and *ferruginea*, seven. The remaining three species, although thus far known only from Panama, have clear relationships with South American species. *Basilia dunni* is very close to *carteri*, the differences being rather subtle; *handleyi* n. sp. is related to *ferruginea*; *tiptoni* n. sp. is closer to *silvae*, so far known only from Chile, although in some ways it resembles *boardmanni* Rozeboom, 1934, from the United States east of the Mississippi, and *rondanii* Guimarães and D'Andretta, 1956, known from Guatemala to Texas.

On the subject of host-parasite relationships, the present data fully bear out our previous conclusions as to the close association of New World *Basilia* with vespertilionid bats. Among 32 host records, 26 refer to vespertilionids and only six to phyllostomids.

Four of the species which occur in Panama (*myotis*, *dunni*, *ferruginea* and *handleyi*) have been found exclusively on vespertilionids; two (*anceps* and *wenzeli*) on both vespertilionids and phyllostomids, and one (*tiptoni*) only on a phyllostomid.

*Basilia myotis*, although recorded from *Dasypterus* (once), *Uroderma* (once) and *Molossus* (twice) is predominantly a parasite of *Myotis nigricans* (24 records). On the southern part of the range of the host, *myotis* is replaced by *speiseri*.

*Basilia dunni* has been found twice on *Myotis nigricans* and twice on *M. albescens*. For the closely related *carteri* there are five records from *nigricans* and three from *albescens*.

*Basilia anceps* also seems to be associated with *Myotis nigricans*, although not as closely as *B. myotis*. Of seven records, four are from *M. nigricans*, one from *M. simus* and two from *Artibeus lituratus palmarum*.

*Basilia wenzeli* is beyond doubt linked to *Eptesicus*. There are three records from *Eptesicus fuscus*, five from *E. brasiliensis propinquus*, one each from *Histiotus*, *Lonchorhina* and *Artibeus*.

Three species of *Basilia* have been found on vespertilionid bats of the genus *Lasiurus*. *Basilia speiseri* was found once on *Lasiurus borealis bonariensis*, possibly as a straggler. However, *B. ferruginea* has been recorded five times from this host subspecies, once from *Lasiurus borealis frantzii* and once from *Lasiurus pfeifferi* (from Cuba).

*Basilia handleyi* n. sp. is closely related to *ferruginea* but distinct. Its occurrence on *Lasiurus castaneus* (whose distribution overlaps that of *L. borealis frantzii* in Panama) seems to confirm the status of *castaneus*, recently described by Handley (1960), as a good species.

*Basilia tiptoni* n. sp. is the only Panamanian species of Nycteribiidae thus far recorded exclusively from Phyllostomidae.

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